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FOR

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RELATING TO

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Life-Histories of Sawflies. Translated from the Dutch of M. S. C. SNELLEN VAN VOLLENHOVEN, by J. W. MAY, Esq.

(Continued from Zool. S. S. 1419).

SELANDRIA OVATA, *Linn.*

Linnæus, Syst. Nat. ii. p. 924, No. 28, Ed. Gmel. i. P. V., p. 2660, No. 28. *Fabricius, Syst. Piez.*, p. 27, No. 25. *Panzer, Fauna Germ.*, lii. tab. 3 (hæmatodes). *De Geer, Mémoires* (Goezes' trans.), ii. 2, p. 237, No. 5, pl. xxxv. figs. 1—11. *Klug, Die Blattwespen,* &c. (in Mag. Naturf. Fr. 8er. Jhrg., p. 62, No. 54. *Lepeletier de St. Fargeau, Monogr. Tenthred.* p. 109, No. 316. *Hartig, Blatt. und. Holzwespen,* p. 280, No. 51. *Ratzeburg, Forstinsecten,* iii. p. 132, pl. 3, fig. 8. *Dahlbom, Clavis Novi Hymen. Syst.* p. 32, No. 48.

Selandria nigra, thoracis dorso rufo, tibiis basi albidis, capite thoracisque lateribus punctato-scabris.

Although this species is well known, and has even been described by many authors (its name dating from Linnæus' 'Fauna Suecica'), the male has hitherto remained undiscovered. I can only attribute our ignorance on this head to the following reasons:—In the first place, the male is very probably differently coloured to the female, so that in a collection it will not be readily matched with the female; secondly, it must be remembered that sawflies seem to copulate during the night or in concealed places, so that it is extremely difficult to observe the copulation of these insects, and will entirely depend upon a fortunate chance; thirdly, according to my own experience, it is anything but easy to rear this species through all the stages of its metamorphosis, so that probably those authors who have published their observations have not succeeded with more than one or two specimens, which, according to the calculation of chances, were much more likely to have been females than males.

There is another conjecture possible, which may serve to clear up the question as to why we are acquainted with only one sex of such a common species. According to this supposition, which, however, is not in anywise based upon observation, and is thus purely hypothetical, and only to be regarded as an idea, the larva of the male would not have the white woolly covering, and for that reason would be less conspicuous, and also, in consequence of that difference, would not be taken for the same species.

The larva is found, from June to September, exclusively on the alder; at first it eats holes in the leaves; it afterwards attacks the edges of the leaves, and goes on until there is nothing left but the principal nervures and one little piece in the middle: fig. 5 represents a leaf entirely eaten out in this manner. The larva is found generally, but certainly not, as stated by Klug, always, on the under side of the leaf; on the contrary, I remember walking in a lane with alders on either side, and seeing as I went along more than twenty larvæ of Selandria ovata on the upper sides of the leaves, their white appearance rendering them very conspicuous. It has not hitherto been discovered where the eggs are deposited, and I have not been able to find any, which, however, can only be attributed to my living in town, for from the large number of sawflies, which are frequently found in a comparatively small area it would surely not be difficult for any one living in the country to clear up this point. I expect the eggs are deposited singly in the petiole or the veins of the leaves, as the larvæ are always found at some distance from each other.

The larvæ are generally found when they are full grown, as they are then very conspicuous on account of their white appearance, which contrasts strongly with the green leaves. They seem at first sight to be entirely white, but they are merely covered with a substance which appears to the eye like white wool: on rubbing off this substance the body is found to be of a very pale bluish green. Fig. 2 represents a half-grown larva immediately after moulting, and when the woolly covering has not yet made its appearance. Its head was somewhat bluer than the body, but there was no spot on the vertex: on removing the white covering from the full-grown larva it is found to have twenty-two legs, the thoracic legs being pale green with brown claws; the body is bluish green, with a darker bluish stripe running along the dorsum. The head is yellowish green-brown on the vertex, and has black spots at the sides, in which the eyes are inserted; the head is thinly clad with fine hairs; the mandibles are brown at the tips. It appears, however, that the head is not always coloured in accordance with the above description, as I found in the case of a larva which I removed from the cocoon, the head of which is represented at fig. 3; in this case the head was olive-green, being darker posteriorly and on the vertex. According to De Geer a large circular black spot should be found on the top of the head.

The larva attains a length of 2·5 centimetres. De Geer is very circumstantial in his description of the white excretion, which he compares to the covering of some of the plant-lice and Chermes larvæ. He states that the material can be rubbed off the body, but is not very easily so entirely removed that the surface of the skin is completely exposed, some portion always appearing to remain attached to the body; further, according to this author, on the skin so exposed are observed darker elliptical transverse spots tapering at both ends: these spots indicate indentations out of which the white material is seen to protrude, of which he also gives figures. He likewise observes that the material in question is not moniliform, as Réaumur has stated with regard to the secretion of plant-lice, but is composed of bundles of remarkably fine short threads running across each other, and without order or arrangement. Hartig observes at the end of his quotation from De Geer that he has himself found woolly larvæ on the alder, but none in which he had been able to discover any deep-lying glands. I have myself also looked for these depressions or gland orifices, which are represented by De Geer as by no means minute, at fig. 6 in his plate xxxv., but I have never been able to discern them. I could see nothing at all resembling these black transverse lines or depressions, but I observed the white substance apparently issuing from various points of the skin, as if coming from invisible pores. The substance itself, when placed on the stage of the microscope and viewed with a power of 300, had the appearance shown at fig. 4; that is to say, of very fine contorted white hairs, not thicker than one of the dividing lines of my micrometer appeared under the same power, thus proving themselves to be of extreme fineness.

I have no doubt that De Geer has described the same larva as I have for that of Selandria ovata; but I am unable to clear up the difference in our observations. On attaining its full growth the larva takes to the earth and there spins a brownish black cocoon, to which the adhering grains of earth give an appearance of roughness; its two extremities are of a less compact texture. The cocoon is double; that is to say, there is an inner cocoon, which is shining and smooth like silk, it is of a yellowish brown colour, and has a white transverse band round the centre. This inner cocoon puts one in mind of those of some of the ichneumons, which also have bands of another colour. The outside case is represented at fig. 6; the inner cocoon at fig. 7.

If the larva spins up in the summer the imago appears after the lapse of five weeks, but if in September the imago does not come out until the following spring: it is singularly coloured, and it was no doubt on account of its short compressed figure that Linnæus gave it the name of Tenthredo ovata.

The perfect insect is 9 millimetres long and expands to 16 mm. The head is black, somewhat shining and punctured, more especially on the sides behind the eyes; just above the place of insertion of the antennæ are two larger smooth pretty deep depressions, as if intended to contain the first two joints of the antennæ. From one of these depressions rises a narrow band which traverses the forehead, running round the most anterior of the three ocelli, and ends in the depression of the opposite side. Vertex and forehead are clothed with fine gray hairs. Mandibles very acute; palpi pale.

The antennæ are 9-jointed. The first joint rounded, the second cup-shaped, the third cylindrical, thicker at the end and longer than the two preceding joints together. These three joints are black, as is also the greater part of the fourth, which is of the same form as the preceding one, but is little more than half the length; the fifth joint is broader, but inserted obliquely into the fourth; the following joints become gradually shorter and narrower, so that the antenna is pointed at its termination. From the apex of the fourth joint the antennæ are black on the outer side only, for the rest white (fig. 9). I do not find that any author has hitherto noticed the oblique insertion of the fifth joint.

The prothorax, the sides and the anterior triangular division of the mesothorax are bright red, shining and sparsely hirsute. The sides of the breast, the scutellum and the part of the dorsum immediately behind it are thickly punctured; cenchri and tegulæ brownish.

Wings iridescent, more or less smoke-coloured; in some individuals a pale brown band traverses the anterior wings. The anterior division of the anal cell is obliquely divided, so that this insect belongs to the third section, Eriocampa, of Hartig. The thickened stigma and the remaining nervures are black or very deep brown, the only exception being that the costal nervure is white at the base. The abdomen being flat above and somewhat curved below, its section is triangular; it is, moreover, smooth, shining, black; the apex above the ovipositor is clothed with shining silvery hairs; a considerable portion of the legs is similarly clothed—these latter are black with white bands round the bases of the tibiæ, those of the posterior tibiæ being the broadest.

Fig. 10 represents the saw and ovipositor highly magnified; they are of the usual brownish yellow colour. It will be seen that the median teeth of the saw are semitrifoliate.

Selandria ovata seems to be generally distributed throughout Europe; it has been taken in this country in many different localities where alders were growing.

NEMATUS PALLICERCUS, *Hartig.*

For the imago, see *Hartig, Blatt. und Holzwespen*, p. 190, No. 13. The larva is undescribed.

Nematus luteus, antennis, genis, occipite, dorso, macula pectorali tarsisque posticis nigris, alarum stigmate et costa pallidis.

The larvæ of this and the following species * of Nematus indicate that they belong to the same group as Salicis and Wttewaalli. The food of the present species, however, clearly appears to be poplar, and not willow, on which the two last-named species feed.

In the month of August, 1859, I observed upon a poplar tree in my garden, at Leyden, some larvæ (fig. 1), which seemed to me to differ in colour and marking from all the species with which I was acquainted, and further observation confirmed the fact that I had a new species before me: my larvæ were somewhat less than two centimetres long, and rather stout in proportion to their length. The colour on the dorsum was shining bluish gray-green, yellowish green on the sides and under surface. The anterior border of the first segment, especially at the side, the eleventh segment, and the margin of the last, were orange-yellow. The thoracic legs were pale green, with black spots; claws brown; the abdominal and two anal legs were yellow. Head small and shining black; on the back were three rows of contiguous black spots. At the sides were some round mostly elliptical spots, irregularly placed, the most conspicuous being two transverse spots above each leg, and above these a triangular spot; on the upper surface of the last abdominal segment was a large quadrangular black spot, which was continued posteriorly on two rather long processes. The spiracles were very small and nearly circular. These animals were almost always feeding; when half grown they merely bit holes in the leaf, but on attaining their full size they ate into the border also, and only left the principal nervures. They were full grown in the first week of September, and on the 6th and 7th of that month they descended to the ground, where they formed small egg-shaped elliptical cocoons just below the surface. These cocoons were entirely covered with little grains of earth and sand, which were tightly cemented to them (fig. 4): on these being detached the cocoon was found to be shining coppery black, and, with the exception of some loose threads, quite smooth. These cocoons did not produce me any living imago: after waiting in expectation a considerable time I determined, in July, 1860, to cut open the cocoons. In the greater number I found dried-up larvæ, but in two cocoons were dried-up pupæ, which had been just ready to emerge, and had even partly cast off the last thin integument. The colouring was very recognisable, so that the species of sawfly could be pretty clearly determined.

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* Nematus aurantiacus of Hartig.

It was not until the 24th of May, 1863, that I was able to continue my observation of this insect. I found on the same poplar tree a leaf eaten entirely through, and in the state represented at fig. 6, a piece in the middle had been left upon which were seen a number of empty egg-shells: they were placed somewhat irregularly close together, but had all the same elliptical form, and were lying in the same direction; they are represented, slightly magnified, at fig. 7. I found some very young larvæ on that part of the leaf which had been eaten into holes, which larvæ were, apparently, about four days old; they were dark green or blackish, with black heads: one is represented in outline at fig. 8. On the 31st of the same month they had moulted, probably for the second time, and were of the size and appearance of our figure 9, and, as far as the general coloration and markings were concerned, had completely acquired the appearance represented at our fig. 1. The only distinction was that the green colour was not so much inclined towards bluish gray, but more nearly approached a pure green.

I daily visited and examined my nurslings, and on the 3rd of June I calculated that they would require eight or ten days before they were full grown. I was therefore not a little surprised when, on the 4th of June, I found that, with the exception of one individual, my whole sawfly family had disappeared. I thought at first that some hungry sparrow or titmouse had accidentally discovered the colony and had devoured them; it seemed to me strange that one individual should have been left, as birds, when once they have made such a discovery, do not usually leave anything remaining: however, I took the little animal that had been left and put it into a tin box with some earth and a couple of leaves: I then discovered that the whole family must have voluntarily descended from the tree for the purpose of spinning up, for on the following day the remaining larva also began to make its cocoon. The cause of these larvæ being so much smaller than the former did not appear, nor could I see the reason of so short a time sufficing them in which to pass through the larva state. On the 30th of June I found, in the little box in which the larva in question had made its cocoon, a dead male sawfly of the species called by Hartig Nematus pallicercus lying next to the empty cocoon. I will now proceed to describe this imago, of which a representation is given at fig. 10, premising that the sawflies of 1860 fully agreed with it, with the exception of their wings not being unfolded.

It is 6 mm. in length, and expands to 13 mm. This species may be said to have but two tints, a pale reddish yellow and obscure black. The antennæ are of this latter tint, and somewhat thick when compared with those of many other species of Nematus; the eyes are gray-brown; head reddish yellow, the extremities of the upper jaws, the cheeks and the vertex, together with the posterior part of the head, are black; the prothorax is yellow; the dorsum of the mesothorax black, the under surface being shining brown; metathorax black superiorly, yellow inferiorly; the anterior and intermediate legs are yellow as far as the last two joints of the tarsi, which are blackish; the posterior legs, which are otherwise yellow, have the extremities of the femora reddish, the tibiæ brownish, the ends being decidedly brown; the tarsi grayish black. The dorsum of the abdomen is shining black, the lateral margins yellow, the under surface reddish yellow. Wings obscure white, slightly iridescent; the nervures brown. The costal and post-costal nervures are yellow at their insertion, the stigma being also of this colour.

The description given by Hartig of the female, *loc. cit.*, agrees with this description of the male, with the following slight exceptions. The black on the vertex is divided by yellow bands into three spots; the sides of the mesothorax are yellow, shaded with black at the insertion of the wings; the posterior coxæ are black in the middle and at the base; the spinous projections of the abdomen are pale brown.

This insect appears to be rare both in this country and in Germany.

The Birds of St. Helena. By EDEN BAKER, Esq.*

I WILLINGLY comply with your request to give you the best account I am able of the birds of St. Helena, only stipulating that, as I have no pretensions to scientific knowledge on the subject, you must expect accuracy only where facts and personal observations are mentioned.

Considering the position of St. Helena, it is singularly destitute of the oceanic birds of the South Atlantic. The great albatross and the smaller man-of-war bird are seen from ships near the island, but never approach its shores. The Cape pigeon follows ships with a south-easter from the Cape of Good Hope to St. Helena, but when the island is approached it leaves them to roam elsewhere. Penguins have been brought in numbers from Ichaboe and the other guana isles on the south-west coast, and let loose in the harbour here: they were never seen again. So far as I know we have only three sea-birds here as residents, and one visitor.

1. The "Tropic Bird," vulgarly so called, but whose card properly written bears the name of Phaeton æthereus, deserves the chief place. From its immense expanse of wing, its short legs, and the shape of the beak, it seems to belong to the albatross family, but doubtless its whole history can be found in any book of sea-birds. It inhabits certain lofty precipices overhanging the sea, and the nests are sometimes cruelly robbed of the young birds by skilful and daring climbers, who bring them to the town, vainly expecting a great price, in which, of course, they are disappointed, and the poor things soon die. The plumage of the old bird is wonderfully thick, downy, strong and light: the breast part is cut off with the skin to make plumes for ladies' hats; it is very beautiful, but the live bird itself, sailing in the air at about two hundred yards above the sea, apparently motionless, with its wings wide outspread, and the two long tail-feathers looking like the tail of a kite, and then to see it suddenly drop straight down into the water, as if shot, after the manner of sea-birds catching fish, is a far more beautiful sight, and makes one regret that any one should ever be able to get at their nests to plunder them. Nevertheless I will send you a tropic bird's egg.

2. Next comes the beautiful little "White Bird." It is a small tern, not so large as a pigeon, snow-white in plumage, red beak and legs; generally seen in pairs, very numerous in some parts of the coast;

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* Communicated by Henry F. Bailey, Esq.

builds in holes in the face of perpendicular rocks, and generally has similar habits to the tropic bird, except flying lower and having always a great curiosity to examine every passing boat, hovering a few yards over one's head, peering inquisitively with its bright little eyes, and evincing generally a desire to fraternise with strangers—an unfortunate propensity in the white bird, for its advances are often met with a charge of shot, and the poor little creature, which offers no mark for skill, is quite useless when killed.

3. The third on the list, and most numerous of the sea-birds, is locally called the "Black Bird." It is the "Noddy" of sailors, or, if not, so resembles it that some one with more precise knowledge than I have would be required to state the points of difference. It is an ugly bird, rusty black with a white head: it is heavy in flight, although swift enough in darting on the fry which swarm near the surface of the sea in warm weather. These are gregarious birds, and swarm on certain rocks, whence they go forth to feed: they are most voracious, and their power of digestion seems to be wonderful for its rapidity; hence your friend who told you that guano was made by "black birds" was not so far wrong. Putting aside the confusion caused by the local name (which is no more absurd at St. Helena than in England), he was perhaps quite right; the black birds are *always* making it, and were it not that a good deal of rain falls here, and that the rocks and crags frequented by these birds are very steep, there would no doubt be large accumulations of guano at St. Helena.

4. There is one other sea-bird which only frequents the island for a few months in the year to lay and hatch its eggs, and then departs, probably to cruize over the South Atlantic for the rest of the year. The fishermen call it the "Egg-bird," because they collect the eggs in the season, which are very much sought after as a delicacy. The bird is brown and white, about the size of a pigeon, but I can give you no particular account of it, never having seen it close, nor can I find anyone who knows anything more about it. Next season (March to May) I could probably, without much difficulty, get one dead or alive, also the eggs. Eggs of the tropic bird and the booby might also be obtained: I am not so sure of those of the white bird—no doubt they would be difficult to get.

You will see that we are by no means rich in sea-birds, although St. Helena is favourably situated, and from the abundance of ocean birds in the South Atlantic it might have been expected to be a great breeding-station; but they seem to prefer higher latitudes for their homes. Query, Are the sea-birds of Ascension the same as ours? and if not, why not? what reason for any great difference? I know nothing of the Ascension birds; but the fish are quite different from those at St. Helena, except certain kinds common to the whole South Atlantic Ocean.

Of land birds there are not a great many, and only one species known to be indigenous.

We have a noble pheasant from China, in size and general appearance similar to the English pheasant, but far more brilliant in plumage. The old cocks are splendid birds; the deep bronze of the breast becomes almost black, with a metallic lustre; the head is covered with scale-feathers from emerald-green to deep blue, and the whole of the markings are more distinct and brighter than the English bird. Its most notable distinctions are two small horns of feathers on the head and a ring of pure white round the neck: these are not perfect till the third year.

The partridge of St. Helena is also a fine bird, of full partridge size, rather slender in shape, light gray colour, with dark, almost black, markings, red beak and legs. It frequents the more barren parts of the island, and has immense power of flight and a habit of running up the rocks on the valley sides and flying down. The great object in partridge shooting, which would be more properly described in French "*chasse aux perdrix*," is to interrupt the coveys in their accustomed flights, turn them when running to the top of a hill, and otherwise bewilder and bother them till they separate and squat, to be put up singly by the pointer; but this can seldom be done, and the sport is fatiguing and somewhat dangerous from the nature of the ground traversed.

There is a small species of dove, from Africa; a few minahs, from India; Java sparrows, whose name indicates their origin; also the "cardinal," from Africa, not very long introduced, but now common: this is of the finch tribe, and when moulting wears a greenish gray tint, hardly distinguishable from a poorly dressed canary, but when summer comes and he appears in a full-dress suit of flame-colour, his appearance, glancing in the sunshine or sitting on the topmost sprig of a fruit tree, is most beautiful. He is a mischievous bird, delighting to pick off the buds and blossoms of fruit-trees (possibly in search of insects), and is very difficult to catch, avoiding all kinds of traps: birdlime is generally used, and in their struggles many are injured and die. The boys get sometimes ten shillings for a fine bird from passing strangers. The nest is of grass, neatly built, but rather slightly furnished inside with thistle-down or other soft bedding; four or five white eggs; no song, but a pleasing twitter.

The St. Helena canary is a good deal in request as a singing bird: the note is very sweet and without the shrillness of the European canary: it is often compared to the song of the linnet. In appearance it differs somewhat both from the canary of South Africa and that of the Canary Islands. I am not naturalist enough to describe the exact points of difference; but although the general opinion is that canaries were imported here, I know of no record of the fact, and it is yet possible that these birds may be indigenous. Some of the males are nearly all yellow, but the greater number, and all the females, have a large admixture of green and grayish plumage.

The little aberdevat is the bird you have seen in London, sometimes called "waxbills" and "redbeaks:" they are very small, easily tamed and very gregarious, flying about in small flocks, and feeding chiefly on grass seeds: they are equally common at the Cape of Good Hope, and probably brought thence. They are pretty little birds; brown on the back, with red breasts and bills and lively manners (though without song), which make them favourites with those who keep birds as pets.

The only bird known to be indigenous at St. Helena is the "wire bird:" the local name is taken from its haunt, the "wire-grass," a kind of couch-grass that grows where the fertile parts of the island gradually changes to the barrenness of the outer rocks. This bird is of the plover family, and seems also to have some connexion with the sandpipers. I have procured the scientific name, on which you may rely, "Charadrius pecuarius," and there would be no great difficulty in getting a specimen. It is a small insignificant bird, a very swift runner, with the habit of flight, peculiar cry, strange actions to divert attention from its nest, &c., common to the plover tribe. Its eggs are dark coloured, two or three in a small depression in the earth or cow-dung: they are but rarely found, and the bird is not very numerous. It is about the size of a snipe; legs long and black; beak three-fourths of an inch, black; tail short; back and upper wing-feathers dark brown or blackish; breast and belly gray. Nothing very remarkable, if not that it is a peculiar species. I have heard that the same bird is found at Tristan d'Acunha, but cannot refer to any authority. If it be a species peculiar to these two islands the fact is of course very interesting to naturalists, and the question, how it came there, highly interesting.

I think I have now told you all I know in reply to your inquiry about the birds of St. Helena. If there are any points on which you wish further information I will try my best to get it; but I fear there is nothing of very great interest in the subject. Of the other branches of the Natural History of the island the only one that offers much field to the naturalist is the Flora: there are some few pecular indigenous plants, and others that, having already been noted, are now extinct. But you asked about birds, not plants.

EDEN BAKER.

St. Helena.

[Interesting as this communication certainly is, it would have been infinitely more so had the names of the birds been given. No. 2, the little "White Bird" completely puzzles me: the colour of the beak and legs indicate the genus Sterna, but I know of no species of tern that builds in holes in the perpendicular face of a rock. No. 3, the "Black Bird," may be either the noddy, as suggested, or the sooty tern. No. 4, the "Egg Bird," is unknown to me entirely. The pheasant is without doubt the species, variety or race, generally known as the Ringed Pheasant (*Phasianus torquatus*). It is observable this year that a very large proportion of the adult cock pheasants offered for sale in Leadenhall Market have this white ring more or less conspicuously developed. —*Edward Newman.*]

Ornithological Notes from North Lincolnshire.

By JOHN CORDEAUX, Esq.

(Continued from Zool. S. S. 1413.)

SEPTEMBER AND OCTOBER, 1868.

Wild Ducks.—September 7. All our common wild ducks are this season much earlier in their arrival, and from all appearances are likely to be plentiful in the Humber district. To-day, when partridge shooting in the marshes, my dog put up from a drain three ducks—all three fell to my two barrels; two were teal, the other a widgeon. Three hours afterwards, at the same spot, a fourth duck rose, which I also shot: it was a tufted duck (*Fuligula cristata*) in immature plumage, the tuft only partly developed.

Larks.—September 12. Large flocks have within the last few days arrived in the marshes. I have on several occasions during the month seen the isabelline-coloured lark mentioned in a previous paper; also another variety with white wings.

Heron.—September 12. These birds are this season very plentiful in the marsh; as many as eight have been seen together.

Dunlin.—September 16. A considerable flock examined by the telescope to-day showed more or less in transition plumage: two or three were apparently in complete winter dress, and one in full summer plumage.

Crossbill.—September 18. My little son brought into the house today a crossbill which the cat had killed in the garden. It is a young male in the plumage assumed after the first autumnal moult. The stomach contained a single coniferous seed and a quantity of coarse river-sand. I have heard of others having been seen and shot in this county.

Ray's Wagtail.—September 18. Last observed.

Jack Snipe.—September 21. First seen; have been plentiful since this date. I found the stomach of a jack snipe which I lately skinned contained broken fragments of fresh-water shells, also a few entire minute bivalve shells (Pisidia).

Gray Wagtail.—September 23. First seen. Is very common on all our small streams and drains.

Knot.—September 23. Small flocks of knots first observed on the fore-shore.

Hooded Crow.—September 26. First observed. A single bird seen in the marshes: I saw no more, however, until the morning of the 5th of October. Saturday, October 3rd, was a very wild and stormy day, with heavy rains from the east. On Monday morning the hooded crows were scattered all over the marsh district: I counted as many as twenty together feeding on the stubbles.

Merlin.—September 28. Have on several occasions lately seen these little falcons in the marshes: one bird in particular, which beats day after day over nearly the same ground. I saw this bird give chase to a dunlin; the turns and twists of both birds were wonderfully sharp and rapid. The stint, however, had the best of it, the merlin finally abandoning the pursuit.

Chaffinch.—September 29. A large flock of male chaffinches seen in one of the plantations.

Solitary Snipe.—October 8. I have heard of one shot this season in North Lincolnshire. It was killed by a friend of mine in a potato field.

Golden Plover.—October 9. First noted. This morning saw two or three small flocks, numbering about fifty altogether, in a grass-field near the Humber. They were, as is usually the case on their first arrival, very tame. I rode my horse round them till within a very short distance: they appeared to be all young birds.

Whimbrel.—October 13. The stomach of a whimbrel which I dissected to-day was crammed with small crabs, entire, and in average size about as large as a sixpence.

House Martin.—October 21. Last seen.

Snipe.—October 31. During the last month have been very plentiful in our Humber district: are remarkably fine and very fat: one which I shot this day weighed four ounces and three-quarters.

JOHN CORDEAUX.

Great Cotes, Ulceby, Lincolnshire,
November 4, 1868.

Honey Buzzard at Lurgan.—In the latter end of September a fine example of this rare buzzard was shot at Lurgan, County Armagh, Ireland. Thompson records but four as being killed in this country; in two cases where one bird was shot the other escaped, making six recorded occurrences. From this we may learn that the honey buzzard has no claim to be Irish, but that any examples met in this country are accidental migrants.—*H. Blake-Knox; Dalkey.*

Richard's Pipit at Brighton: the Tawny Pipit.—On Monday, the 5th of October, a specimen of Richard's pipit (*Anthus Ricardi*) was caught near Brighton, and taken to Mr. Swaysland, Queen's-road. This bird was moulting all over, and its tail only half-grown—a circumstance which showed, I think, that it could not have been about to migrate, and indicates that this species moults very late. All the pipits have long finished the process, whereas our bird's state was what one would expect to find in a pipit early in August. If the species moults late, query, does it also breed late? Who can answer? No naturalist, either past or present. I have recorded in the 'Field' various other instances of the occurrence of Richard's pipit at Brighton, the last on the 9th of October, 1867: a former one was captured on the 10th of November, 1866. These three are all autumnal dates, and point to departure; yet I find one in my notes brought into Brighton on the 20th of January, 1865, notice of which I sent to the 'Zoologist' of March following (Zool. 9466). So I confess myself at a loss to understand the species. The one before me appears to be an old male, moulting all at once, which young birds seldom do. As I am on the subject of pipits, I cannot refrain from expressing my gratification when I read of the tawny pipit (*A. campestris*) lately captured at Scilly, mentioned by Mr. E. H. Rodd in the 'Field' of September 26th. This is the fourth example we have had, and I fully expect more will turn up. Notice of the first three may be found in Mr. Gould's fine work on British birds. Such strong flights of migrants as we have witnessed for the last few weeks have not been seen for some years on the south coast, clearly showing a good hatching season in the northern and midland counties.—*George Dawson Rowley; 5, Peel Terrace, Brighton.—From the 'Field.'*

On the Departure of the Swallow from Devonshire in 1868.—In communicating to the 'Zoologist' a list of the departures of summer birds from Cornwall and Devonshire, during the months of August and September, I mentioned the 21st of September as the latest day in that month on which I observed the chimney swallow. I however again observed a swallow on the 2nd of October, and found that they remained in this neighbourhood, but chiefly near the coast, in varying numbers, till the 26th of October, since which day I have not seen any of them. Most of the specimens observed in October appeared to be birds of the present year.—*J. H. Gurney; Marldon, Totnes, November* 11, 1868.

Hoopoe at Ely.—A young male hoopoe was shot near here a short time since: it frequented one particular field, probably in search of the larvæ of a beetle which abounds in it: it was exceedingly shy, and flew with a rather powerful undulating flight when disturbed.—*John Tilterton; Ely, November* 3, 1868.

Young Emeus at Clumber.—On a recent visit to the aviaries erected by the Duke of Newcastle, in the beautiful grounds at Clumber, I was much interested in the young emeus that have been reared during the present season. The chief food of the adult birds is grass. Those at Clumber graze with the cows and horses in an open field, and are fond of cabbage, lettuce or any garden refuse. During the laying season they are also supplied with a proportion of meal mixed thin with water, or soaked ship-biscuits. For their size and weight they are unquestionably small eaters. They are readily kept within bounds by ordinary fences, never attempting to force through a hedge or pass over a gate. They are also very prolific, the hen laying nearly thirty eggs every season. It is true that these are more than the male bird can cover; but there appears to be no valid reason why a portion of the eggs should not be hatched under turkeys without the slightest difficulty. When to these recommendations we add their strangely picturesque appearance as seen walking at a short distance, I can conceive no more useful or attractive addition to the Fauna of an inclosed park. The pair of birds at Clumber are now four years old; the female laid for the first time early in the year 1867. During the present year, of which only I have any accurate record, she commenced to lay on the 5th of January, and laid every second or third day until she had deposited twenty-seven eggs, which were placed on the floor of a shed, which opens into the small inclosure in which the birds were confined at that time. After seven eggs had been deposited the male proceeded to sit upon them, and sat steadily for eight days, when the female disturbed him, and he left the nest for eight days—the eggs being exposed during the whole of this time to the severe weather of last February. At the end of this period the cock resumed his task of incubation, and sat for sixty-two days after the commencement of the second incubation. At this time Mr. Douglas thought that the health of the bird would suffer from the long-continued confinement and abstinence from food, as he refused to eat anything whilst on the nest, although food and water were placed within his reach, and he only came off the eggs three times during the long period of incubation. As the date at which the eggs should have hatched, counting from the first commencement of incubation, had passed, it was feared they were not fertile; but on placing them in warm water their active motion soon testified to the existence of living emeus within: they were consequently returned to the nest and hatched in due course. Of the seven eggs one was rotten, two young emeu chicks died in the shell, and four were hatched, one of which was accidentally killed by the male. Of the remaining eggs several were eaten, and found of unquestionable excellence: as they weigh about one pound and a quarter each, it does not take many to make a good-sized omelet. The beautiful dark green colour of the shells renders them most elegant objects when mounted as cups in gold or silver. The shell is very stout, even after the young chick has escaped; and were it not for the singular breaking up of the arrangement of the structure just before hatching, which was first observed and described by my late lamented friend Mr. J. Quekett, it would appear almost impossible for the chick to force its way through the stony walls of

. . . . that antenatal tomb
Where the young bird dreams of the life to come.

The young at birth are most interesting-looking creatures: in colour they do not resemble the mixture of dull brown and gray that characterizes the loose plumage of the old birds, but are striped longitudinally on the sides, like a zebra, the markings being dark on a light ground. Fearful of any injury that might arise from the parents, the young emeus were reared by hand, being for a few days crammed with chopped lettuce, rib-grass, clover, leaves, and custard. Before the end of the first week they had learned to feed themselves, and their chief food now consists of grass, rib-grass (*Plantago lanceolata*), cabbage, clover, with some bread and meal. Their mode of drinking is peculiar: they spoon the water up with the lower mandible, and allow it to run to the back of the mouth. They are now about four feet high, and weigh about sixteen pounds to eighteen pounds each. They are so tame that they became a trouble when at large, as they could not be kept out of the house; and now they run towards any one approaching the inclosure, uttering a soliciting note of "peep, peep," very unlike the pumping sound uttered by the adult female. Their gambols and play are strangely peculiar. The wings are so very rudimentary that the action is entirely confined to the neck and legs. They leap, they kick out with one leg, roll on their sides and backs, kicking with both legs: again they leap up, and chase each other in the most good-humoured frolic. In the midst of this play a rush comes against the strong wire-fencing that separates the inclosure from the field in which the old birds are grazing: it is their unnatural mother making a dash against the stout wire which alone protects them from death at the hands, or rather the legs, of their most unaffectionate parent. With regard to the emeu as an object of sport, Sir Thomas Mitchell, in his 'Eastern Australia,' writes, "It is one thing for a swift dog to overtake an emeu, and another to kill or even to seize it. Our dogs are only now learning to seize emeus, although they had chased and overtaken many. To attempt to seize them by the side or leg is dangerous, as an emeu could break a leg with a kick; but if they seize them by the neck, as good dogs learn to do, the bird is immediately overthrown, and easily killed. The flesh resembles a beef-steak, and has a very agreeable flavour, being far preferable to that of the kangaroo."—*W. B. Tegetmeier, in the 'Field.'*

Cuckoos in Confinement.—Some years since, when living in London, in walking down Oxford-street, I saw a boy with a number of nestling birds for sale, and amongst them a young cuckoo. This I bought. At that time I had a fine collection of soft-bill birds—nightingales, blackcaps, whitethroat, redstart, robin, titlark, &c. All these birds I fed on scraped lean beef, and hard-boiled yolk of egg, mixed moist with clean water: this, with a good supply of meal-worms, which I bred for them in large quantities, and a little fruit occasionally, kept them in excellent health. Being thus provided, I found little trouble in rearing my new acquisition on a portion of the same food as the others, being, like them, an insectivorous bird. The difficulty at first with this bird is its pugnacious habit, as it will strike at your fingers like a hawk when trying to feed it; but the offer of the meal-worms, or a green caterpillar, or beetle of any sort, will soon overcome this, and render it tolerably familiar—it will never be entirely so, as it is naturally a solitary bird. If the live food is placed on the other food the bird will soon learn to feed itself; but for a long time after he could feed himself mine would call to be fed by hand, and this I used to do. Finding him very restless at first when put in an ordinary cage, I transferred him to a lark's cage. This seemed to suit him admirably. He immediately got on to the raised front, and as I placed the cage where he could get the sun, he spent the great part of the day sitting there, and only going back on the perch I had placed for him at night. Thus placed he grew rapidly, and in about five weeks from the time I bought him (the middle of July) he had acquired the plumage of what by some persons is termed a "red cuckoo," but which is, in fact, a bird of the first year, in immature plumage. Fearing that, as the period of migration was at hand, he might injure his plumage—now complete—I put him in a large cage, four feet square by two feet deep; but he had not the migratory impulse nearly as strong on him as some of my smaller birds—the blackcaps, for example. I thus kept him well through the winter. But now comes a piece of his history, which I have no doubt will be as new to your readers as it was to me, and to which I beg to invite their attention. One morning in January, about the middle of the month, whilst sitting at breakfast, my wife and myself were startled by what appeared to be a sharp treble bark of a young dog. Looking hastily round the room, we could see nothing to account for the unusual sound; but the wonderment in which we were was soon dissipated, for a few minutes after the barks were repeated, but this time accompanied by the pleasing sound "Cuckoo! cuckoo! cuckoo!" We were, as you may imagine, much delighted at the discovery. This continued for more than a month—the three small sharp barks always preceding the cuckoo; but the latter call would sometimes be repeated eight or ten times in succession. At the end of that time he ceased to call, but seemed to get more animated and restless for a short time, when he settled into his usual habit, and we heard his call no more until May, and then rarely accompanied by the barks. I kept him well all through the summer until the beginning of September, when he had nearly acquired his perfect plumage; but in my over-anxiety to prevent his injuring his beautiful new dress, I took him out of the cage and put him into a large attic, where he had only been a few days when, on going one morning to feed him as usual, to my great regret I found him dead, having been killed and part eaten by a rat from the adjoining building. In conclusion, if any of your readers can solve me the following, the affirmative of which are strongly impressed on my own mind, it may interest others besides myself:—*First*, does the cuckoo habitually at a certain season bark? *Secondly*, does the cuckoo migrate in Africa as well as in Europe?—in other words, is it subject to a double migration, as the observation of my bird would seem to indicate?—*Robert Essery; 4, Woodhill, Northampton, September* 2, 1868.—*From the 'Field' of September* 5.

Nutcracker near Christchurch.—On the 6th of November Mr. Hart sent me a nutcracker, in the flesh, from Christchurch. It was shot on a fir tree, and proved a male on dissection. This specimen has a *narrow pointed* beak, the extreme tip of both mandibles horn-coloured, the upper slightly projecting, and this is so far confirmatory of the views expressed in the 'Birds of Norfolk' (p. 281), *viz.* that the disparity in the bills of this species is a sexual distinction. Mr. Cordeaux found its stomach to contain a great mass of Coleopterous insects, broken and entire, of several species and sizes, principally a small black-headed beetle, with brown wing-cases, a little vegetable fibre, a few white oats, also some small stones.—*J. H. Gurney, jun.*

Creamcoloured Courser in Lanarkshire.—This is the first specimen on record as having been obtained in Scotland: it was shot by my friend Mr. C. Walker, of Braxfield, Lanarkshire, as recorded in the 'Zoologist' for November (S. S. 1459), on his own estate, on the 7th of October, and by dissection proved a male. Through the kindness of Mr. J. H. Gurney, jun., who dissected the bird, I have been enabled to put in Mr. Gray's hands full particulars regarding it, for his 'Birds of Scotland,' and which need not be repeated at this time.—*John A. Harvie Brown; Dunipaee House, Falkirk.*

Solitary Snipe in Sussex.—I beg to record an instance of the solitary snipe having been caught in a gin, which had been set by the side of a water-cress bed, at Sompting, a village about two miles from Worthing, Sussex. It was caught on the 24th of October last, and came into my possession on the same day.—*J. W. Stephenson; 2, Loudoun Place, Brixton Road, November* 7, 1868.

The Great Snipe: Number of Tail-feathers.—I saw a specimen of the great snipe, killed near Camelford, Cornwall, yesterday; and, amongst several specimens killed in the county, I refer to this example especially, as it had eighteen instead of sixteen tail-feathers.—*Edward Hearle Rodd; Penzance, November* 4, 1868.

Erratum.—In my notice of the tawny pipit (Zool. S. S. 1458), *for* "fat" *read* "feet."—*Id.*

Rednecked Phalarope in Norfolk.—A beautiful male of this elegant little species was shot, on the 30th of October, at Stalham. It rose from a pond (where it had been swimming not unlike a miniature duck), and took refuge on the roof of a barn in the immediate neighbourhood, but soon fell a victim to the aim of a sportsman.—*T. E. Gunn; 21, Regent Street, Norwich.*

Abundance of the Little Grebe in Sussex.—I have received an account, from Worthing, of an unusual number of the little grebe having been seen at, and in the neighbourhood of, Lancing, on the 6th instant. Mr. Wells, of Worthing, writes me that he had seven brought to him alive, which were caught in a small pool of salt water on the shingle near Lancing Gate, and at the same time there were a great number in the water between Lancing and Shoreham. In short, on that day they were said to be "in every ditch," and on the following day not one was to be seen.—*J. W. Stephenson; November* 14, 1868.

Little Gulls on the Yorkshire Coast.—On the 26th of October I had two little gulls (in a fresh state) from Bridlington Quay; and, on the 27th, another having two or three brown feathers on the head, probably part of the nest-plumage not cast. A fourth, which I examined in the flesh, possessed a rich rosy tint on the under parts—a lovely contrast to the fine pearl-gray of the upper plumage. These little gulls have been all shot within a radius of a few miles.—*J. H. Gurney, jun.*

Pomarine Skua at Flamborough.—On the 13th of November I had a brace of pomarine skuas, in the first plumage, from Flamborough (in the flesh). Young birds of this species are not very rare on this coast in autumn.—*Id.*

Pomarine Skua on the Norfolk Coast.—On the 5th and 6th of October two immature birds, male and female, of the pomarine skua were shot; the first, a female, at Stiffikey, and the other, a male, at Rollesby. Although both specimens measured exactly the same, the male weighed two ounces less than the female, being fifteen ounces. In their stomachs I found some pieces of cork, coal-cinders, bits of sea-weed, and some yellowish matter not unlike mustard.—*T. E. Gunn.*

Fulmar Petrel near Filey.—On the 26th of October an immature fulmar petrel was taken on a hook at Filey. I found the œsophagus contained a bird, which I have no hesitation in saying was a redwing, a fish of some description, a few gull's feathers, and what I have little doubt are the mandibles of some of the Sepiadæ (since identified as such by Mr. Cordeaux), alluded to by Macgillivray as forming the fulmar's principal food. The curved point of the bill pale yellow; the lower mandible and the sides of the upper horny flesh-colour; the superior ridge investing the nostrils black, and not grayish white, as in the adult.—*J. H. Gurney, jun.*

Fulmar Petrel at Flamborough.—On the 12th of November I had another pair of Fulmars from Flamborough (in the flesh). Considering the vast numbers that resort to St. Kilda, it is surprising that so few individuals are obtained along the English coasts.—*Id.*

The Great Auk.—It has been pointed out to me that the date given for the supposed extinction of the gare-fowl (Zool. S. S. 1354) is erroneous, there being no authentic record of its existence as lately as 1848. I must, however reluctantly, trace the source of this error. I believe it originates with Dr. Charlton, who, in the 'Transactions of the Tyneside Natural History Society,' reprinted in the 'Zoologist' (Zool. 6887), writes thus:—"It seems almost certain, too, that in 1848 a great auk was shot on the island of Wardoe, within the arctic circle, by one of the peasants there." Professor Newton, however, has I think satisfactorily shown in the 'Ibis' for October, 1861, reprinted in the 'Zoologist' (Zool. 8108) that this was a mistake. I believe the bird occurred in 1844, but not since.—*Edward Newman.*

Wild-fowl of Jamaica.—Now, during the rains (October and November), large flocks of wild-fowl are coming over from Cuba and South America. Cold, wet, windy weather is most favourable for their arrival. Blue-winged teal (*Cyanopterus discors*) especially numerous, arriving in flocks of from thirty to two and three hundred. The vast morasses and lagoons here afford shelter to innumerable aquatic birds at this season, and I have obtained from the market sportsmen, owing to the severity of the weather lately, several Scolopacidæ I had not seen before, *viz.* bartailed sandpiper (*Tringa solitaria*), spotted sandpiper (*T. macularia*), yellow-shanks gambet (*Totanus flavipes*), the willet (*Catoptrophorus semipalmatus*), and other species. The rufous-necked pelican is not uncommon, and may generally be observed in small parties of six or eight fishing in the shallows, which abound here about the Coral Reefs.—*Alwin S. Bell, 3rd West India Regiment; Falmouth, Jamaica, October* 5, 1868.

Ornithological Notes from Stirlingshire for October, 1868.—October 12. To-day my friend Mr. J. H. Belfrage shot a great spotted woodpecker here. Many others have been obtained in the counties further north, principally towards the east coast.

October 13. I mentioned in my last communication (Zool. S. S. 1454), that I had seen a buzzard on two consecutive Sundays last month. One, which I believe to be the same, was shot about a week ago at Fintry. Fintry is the part of this county most frequently visited by this bird in autumn, and some are killed there almost every season.

October 28. To-day I received a fine osprey: it was shot, on the 26th, at Carron: it has frequented the Reservoir there for more than a month. The bird was observed to dash amongst a lot of hens and chickens on a former occasion by the same man who shot it, and he states that he is certain it carried off something in its talons. Mr. Dawson, Manager of the Carron Iron Works, has lately lost from amongst his poultry five or six hens and chickens, and blames this bird for having stolen them. I have furnished Mr. R. Gray with fuller notes on the subject, which I consider interesting, the more so as I can rely upon what my informant tells me as being true. When shot the bird had a good-sized perch in its talons. The whole bird, feathers, head and talons, had a most fish-like smell.—*John A. Harvie Brown.*

Rare Birds in the North of Scotland.—A roller, a nutcracker, a snowy owl, besides numbers of great spotted woodpeckers, have during the last month been obtained in the North of Scotland.—*Id.*

Rare Birds at Southwold.—Mr. Cooper, on a visit to Captain Rumbold, at Southwold, in Suffolk, saw a spoonbill, which a fisherman had shot there on the 26th of September: Captain Rumbold had had a long shot at the bird the day previous, but missed it. A hoopoe was also shot at Southwold in the early part of the month, and a shore lark on the 21st of October.—*William Gibson; 28, Radnor Street, St. Luke's.*

Globe Fish at Penzance.—On the 26th of October I received a specimen of Pennant's globe fish (*Tetrodon Pennantii*), nineteen inches over all. The last specimen of which I find any record was taken in August, 1851, in this bay, and its capture was noted by the late Mr. R. Q. Couch, in the second volume of the 'Transactions' of the Penzance Natural History Society. My specimen had a distinct lateral line beginning at the upper posterior part of the orbit, rising over the base of the pectoral, running parallel to the back high over the pectoral laid flat until it cleared it, then deflecting in a rapid curve until opposite the fork, whence it ran straight to the fork. Having a specimen in the Museum with the globe distended, I was anxious to preserve this one with the globe exhausted. The fish was brought to me with the globe in this state, but it was found that, on removing the ligaments which regulated it, the globe immediately distended itself to its full size, and so remained. In the stomach (and mouth) was fresh sea-weed in considerable quantity, showing that the fish had fed freely on it recently before its capture. The fish was taken at Perranporth, near Truro. It was floated in with a lot of sea-weed, and was alive when taken, but whether its globe was then distended I have no means of ascertaining. The globe was exhausted when the fish reached me, and inasmuch as the gentleman who gave it to me made no remark on it, I judge that the globe was in the same state as when it was taken. The globe when distended fresh was a light bladder, covered with a padded flexible spinous skin, capable of taking any amount of knocking about without sustaining injury.—*Thomas Cornish; Penzance, October* 29, 1868.

Enormous Eel.—An eel was caught by a fisherman at Oldbury-on-Severn, on the 24th of October, weighing over eighty pounds.—*Worcester Paper.*

Trout in Australia and New Zealand.—It is satisfactory to find that the trout established in Tasmania are being made the means of stocking other rivers both in

Australia and New Zealand, a portion of the ova furnished by them having been sent to Melbourne and Strathmore, and to Christchurch and Otago in New Zealand. They appear to have thriven wonderfully. No further certain news has been received with respect to the salmon. That several have been received far up the river admits of very little doubt; and that the fish have been seen in pairs, which leads to a hope that they may spawn successfully in the natural way, is also asserted. One difficulty which the salmon appear likely to have to contend with is the poaching with small-meshed nets in the mouths of the rivers, which appears to be very rife in places; and as the Victorian Acclimatisation Society are unable to afford the cost of sufficient bailiffs to keep it in check, and the police are not allowed to interfere,—though it seems hard, in such a case, to understand why,—there can be little doubt that a good deal of needless difficulty is likely to be thrown in the way of the free passage of the fish either up or down. It is to be hoped that the Society will see their way to appointing a sufficient force of bailiffs to keep this danger down as much as possible until the Derwent is fairly stocked with salmon.

Grasshoppers in British America..—At Fort Garry, Red River Settlement, Hudson's Bay, Mr. Power writes to the 'Times':—"The grasshoppers came in swarms of countless millions from the north-west, on last harvest, and destroyed a great portion of the grain and nearly the whole of the vegetable crops, and deposited their eggs in the ground an inch and a half deep, so that if you were to dig to that depth you would see the earth covered with their eggs. There never were seen finer crops in England or Scotland than were here last harvest, and this year they appeared equally good up to June, and the season continues beautiful up to this time. The grasshoppers began to hatch about the end of May, and to begin their work of destruction in June, and so complete was it, they would begin on a field of wheat, barley, oats, or potatoes, and leave it as though it were newly ploughed and harrowed, scarcely a weed being left or a particle of anything for the use of mankind. The most beautiful part of our settlement is from Fort Garry to the White Horse Plains, and from there to the Portage, a distance of about sixty miles, runs the deep-flowing Assiniboine, with small farm-houses all along its banks, and with large woods and plains all the way, and in all that distance there is not a fruit or a kernel, or a particle of anything left for the use of mankind."

PROCEEDINGS OF SOCIETIES.

ENTOMOLOGICAL SOCIETY.

November 2, 1868.—H. W. BATES, Esq., President, in the chair.

Additions to the Library.

The following donations were announced, and thanks voted to the donors:—'Proceedings of the Royal Society,' No. 103; presented by the Society. 'Transactions of the Linnean Society,' Vol. xxvi. Part 1; 'Journal of the Linnean Society,' Zoology, Nos. 42 and 43; by the Society. 'Proceedings of the Zoological Society,' Index, 1848—1860; and 1868, Parts 1 and 2; by the Society. 'Journal of the Royal Agricultural Society,' Second Series, Vol. iv. Part 2; by the Society. 'Annales de la Société Linnéenne de Lyon,' N. S., Tome xv., 1867; by the Society. 'Bulletin de la Société Impériale des Naturalistes de Moscou,' 1867, Nos. 3 and 4; by the Society. 'Berliner Entomologische Zeitschrift,' Vol. xii. Parts 1 and 2; by the Entomological Society of Berlin. 'Stettiner Entomologische Zeitung,' 1868, Nos. 7—9; by the Society. 'Journal of the Quekett Microscopical Club,' Nos. 1—3; by the Club. Hewitson's 'Exotic Butterflies,' Part 68; by W. W. Saunders, Esq. 'Coleopterologische Hefte,' herausgegeben von E. v. Harold, ii. and iii.; by the Editor. Newman's 'British Moths,' Nos. 20—23; by the Author. 'The Zoologist,' August to November; by the Editor. 'The Entomologist's Monthly Magazine,' August to November; by the Editors.

The following additions by purchase were also announced:—Schiner, 'Diptera der Novara Reise.' Redtenbacher, 'Coleoptera der Novara Reise.' Tournier, 'Description des Dascillides du Bassin du Léman.' Gerstäcker, 'Bericht der Entomologie während der Jahre 1865 und 1866.' 'Catalogus Coleopterorum hucusque descriptorum Synonymicus et Systematicus;' autoribus Dr. Gemminger et B. de Harold; Tom. i., Cicindelidæ, Carabidæ. F. Walker, 'Catalogue of Heteropterous Hemiptera in the British Museum,' Parts 1 and 2; 'Catalogue of Blattariæ in the British Museum.' A. G. Butler, 'Catalogue of Satyridæ in the British Museum.'

Exhibitions, &c.

The President exhibited specimens of Vanessa Urticæ and Zygæna Filipendulæ from the Isle of Man, remarkable for their small size. The following note by the captor, Mr. Edwin Birchall, was read:—

"I captured about twenty specimens of Vanessa Urticæ in the Isle of Man in June last, all of the same diminutive size as the examples sent for exhibition. The outline of the wings is more angular than in English specimens, the black spots either larger in proportion, or in the case of the two spots in the centre of the fore wings, actually larger in the small insects from the Isle of Man than in the large English ones, the variation from the typical form being thus exactly the reverse of what occurs in the Corsican subspecies Ichneusa, in which these spots are altogether wanting. Whether some accidental cause has dwarfed the insects, or that we have here a distinct insular variety, and the opportunity, as it were, of watching the origination of a new species, future inquiry must decide. Zygæna Filipendulæ also occurs in a very dwarfed condition: this I have observed both in 1867 and 1868, and the specimens exhibited are certainly the ordinary condition of that insect in the island. I hope entomologists who may visit the Isle of Man will collect other common species found there, as well as the rare ones for which it has become celebrated, that a wider basis for generalization than at present exists may be obtained."

Mr. F. Smith inquired whether Vanessa Urticæ was always thus dwarfed in the Isle of Man, or whether the smallness was one of the effects of the peculiarly hot season of 1868? He believed that during the past season many Hymenoptera had been observed in a dwarfed condition.

Mr. J. Jenner Weir had noticed that the common white butterflies of the past season were unusually small.

Prof. Westwood remarked that the diminutive size might perhaps be due to the heat, and the consequent rapidity of development of the insects, which remained a shorter time, and therefore ate less, in the larva state.

Mr. R. L. Davis (who was present as a visitor) mentioned that he had a number of pupæ of Smerinthus ocellatus of very small size: the larvæ had scarcely attained more than half their usual growth when they were driven into the pupa state by the frost destroying their food. According to his experience, scarcity of food was generally the cause of smallness. During the season of 1868 he had preserved for the cabinet larvæ of about sixty-five species of Lepidoptera, most of which (including some of the diminutive Smerinthus ocellatus) were exhibited.

Mr. S. Stevens exhibited a specimen of Chœrocampa Celerio captured at Brighton by Mr. Swaysland, on the evening of the 20th of September, hovering over Verbena flowers; and a moth from the British collection of the late Mr. Desvignes, ticketted "immoraria, *Hub.*," which it was suggested was an extraordinary variety of Strenia clathrata.

The Secretary read a letter from Gunner John Wilson, of the Royal Artillery, Woolwich, stating that he had bred a gynandromorphous specimen of Lasiocampa Quercus: "it shows the chocolate wings and feathered antenna of the male on the left side; on the right the wings are buff, and the antenna is single as in the female, the abdomen thicker and not tufted as on the other."

Mr. Briggs (who was present as a visitor) exhibited a Leucania captured at Folkestone on the 15th of August, at sugar; a second specimen, much worn, was taken in the second week of October, within five yards of the same place. The insect appeared to differ from any species hitherto recorded as British.

Mr. H. Pryer exhibited a specimen of Scoparia Zelleri (*Wocke*), captured in the railway station at Norwood Junction, on the 17th of August, 1867. This was the first occurrence of the species in Britain; but the capture of a second specimen is announced in the 'Entomologist's Monthly Magazine,' v. 131.

Mr. G. S. Mosse exhibited a collection of insects from the State of New York: they were principally Lepidoptera, and amongst them was a female of Papilio Turnus, which, contrary to the usual habit, was coloured like the male.

Mr. H. Pryer exhibited a specimen of Agrypnia picta (*Kolenati*), a new addition to the list of British Trichoptera. The insect, a male, was captured at a gas-lamp at Highgate, in June, 1868.

Mr. Frederick Smith read the following note:—"The Secretary has called my attention to the fact that the name Œstropsis, under which I described a new genus of Aculeate Hymenoptera in the 'Transactions' of the Society for the present year (Tr. Ent. Soc. 1868, p. 253), has been applied by Dr. Brauer, during the present year, to a genus of Trichoptera (Verh. zool.-bot. Gesells. Wien, 1868, vol. xviii. p. 263). As Dr. Brauer's paper was published before mine, I have now to propose for my new genus of Aculeata the name Gastropsis, from the resemblance which the insect bears to the Gastrus equi of Meigen, the Œstrus equi of old authors."

The President read a letter from Mr. Albert Müller, of Penge, to the following effect:—"As regards British galls, Mr. H. Waring Kidd, of Godalming, and I are jointly working at a descriptive list of all excrescences or deformations caused by insect agency on plants growing wild or cultivated in these islands; and for the guidance of such persons as may be willing to aid us, a list of such plants has appeared in the

'Entomologist's Monthly Magazine' for October. Foreign galls and their insects, as well as the economy of the latter, form the special study of the writer, who will at all times be happy to enter into correspondence with any one desirous to further the object in view, either by contributing specimens or by giving information of any kind: this pursuit is intended to lead, at some future time, to the production of a work similar to the one proposed by my late friend Mr. Wilson Armistead, of Leeds."

Mr. Roland Trimen sent (from the Cape of Good Hope) some sketches of an Orthopterous insect, respecting which he wrote as follows:—"It is sometimes found in gardens about Cape Town. The extraordinary development of the parts of the mouth, particularly of the labrum and mandibles, makes me think it may be allied to the Australian genus Anostostoma of G. R. Gray, with which, however, I am unacquainted. I imagine this Cape cricket to belong to the Gryllidæ; but as my specimen has no trace of wings, it is very probably only a larva, and may result in a member of the Achetidæ. I shall be very glad to hear anything that you can ascertain about this ugly fellow, especially if the special use of such formidable mouth-armature be known. I tried my captive with leaves, but he would not touch them."

Prof. Westwood said the insect was an Anostostoma, or was nearly allied thereto: it might be the species figured by Stoll.

With reference to the plague of so-called "mosquitoes" at Plumstead and Woolwich, in the months of July and August, the Secretary mentioned that in the latter month he had had sent to him from Woolwich two insects, each of which was alleged to be the delinquent. The first was a golden-eye (*Chrysopa*)! The other was a veritable gnat, and was pronounced by Mr. F. Walker to be the Culex nemorosus, a species often troublesome in woods, though not usually found in houses. Mr. F. Smith added that specimens of the common house-gnat (*Culex ciliaris*) had been sent to the British Museum as "the mosquito."

The Secretary read a letter from Mr. R. W. Fereday, of Christchurch, New Zealand, requesting contributions of specimens, with a view to the formation of a collection of British insects for the Museum there; and a letter from Mr. H. L. Schrader, of Shanghai, containing observations on various insects (Agathia, Œceticus, Cerura, Actias, Syrphus, Psylla, &c.).

Papers read.

The following papers were read:—"Notes on some South-African Butterflies enumerated in Mr. A. G. Butler's Catalogue of Satyridæ in the British Museum;" by Mr. Roland Trimen.

"Contributions to a Knowledge of the European Trichoptera" (First Part); by Mr. R. M'Lachlan.

"Descriptions of new Genera and Species of Heteromera;" by Mr. Frederick Bates.

New Parts of 'Transactions.'

The 'Transactions' of the Society for the year 1868, Parts 2 and 3, published in July and September respectively, were on the table.—*J. W. D.*

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Fishes.—Globe Fish at Penzance, *Thomas Cornish*, 1484. Enormous Eel, 1484. Trout in Australia and New Zealand, 1484.

Insects.—Grasshoppers in British America, 1485.

Proceedings of Societies.—Entomological Society, 1485.

TO CORRESPONDENTS.

In accordance with invariable and unavoidable custom in the December number, numerous short communications stand over: most of these have been received since the Index was in hand; and it was necessary to arrange and print the body of the work before that somewhat laborious undertaking was commenced. I believe every one of these will appear in the January number. I trust to be able to complete my own contributions on 'Variation in Lepidoptera' and on 'The Death of Species' during 1869, but of course all promises to that effect must be conditional, seeing that I shall always give precedence to those communications with which I am favoured by others.

Edward Newman.

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